

30526  
S/194/61/000/008/089/092  
D201/D304

9.3220 (1040)

AUTHORS: Medvedev, G.A. and Tarasenko, V.P.

TITLE: A threshold-comparison circuit

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,  
no. 8, 1961, 24, abstract 8 K158 (Uch. zap. Tomskiy  
un-t, 1960, no. 36, 65-67)

TEXT: A description is given of an amplitude discriminator,  
producing a signal at the output when the analyzed voltage happens  
to be within the given interval. The arrangement consists of two  
threshold-comparator circuits, an inverter and a coincidence cir-  
cuit. The threshold comparator is a Schmitt trigger with a summing  
amplifier at the input, so that the analyzed voltage is determined  
from the given threshold voltage. Such a system makes it possible  
to have the stability and rise time of the trigger independent of  
changes in the threshold level. 1 reference. *[Abstracter's note:  
Complete translation]* X

Card 1/1

41232  
8/194/62/000/007/095/160  
D271/D308

AUTHOR: Medvedev, G.A.

TITLE: Interference stability of a receiver with finite recovery time

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1962, abstract 7zh92 (Tr. Sibirs. fiz.-tekhn. in-ta pri Tomskom un-te, 1961, no. 40, 29-38)

TEXT: The author considers the interference stability of the reception of periodic (period T) pulse signals by a receiver with a finite recovery time. It is assumed that the interference consists of a stationary flow of pulses with an intensity  $\bar{n}$ . The quantity  $p'_0/n$  is chosen as the interference stability criterion;  $p'_0$  is the probability that the useful signal will be detected by the receiver in the presence of interference and  $n$  is the average number of interference pulses during the period. The receiver considered here is compared with a conventional (non-inertial) receiver having an interference stability (the ratio  $p'_0/n$ ) equal to  $q/\pi T$  where  $q$  is the

Card 1/2

Interference stability of a ...

S/194/62/000/007/095/160  
D271/D308

probability that the useful signal at the input of the 'restored' receiver will be detected. It is shown that the receiver with a finite recovery period always has a greater interference stability than the conventional receiver and that an increase in recovery time at any interference intensity, improves the interference stability of reception. [Abstracter's note: Complete translation.]

Card 2/2

S/194/62/000/008/093/100  
D413/D308

3.44.20

AUTHOR: Medvedev, G.A.

TITLE: The effect of a random sequence of pulses on a circuit with AGC

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1962, abstract 8-7-176 1 (Tr. Sibirs. fiz.-tekhn. in-ta pri Tomskom un-te, no. 40, 1961, 39-46)

TEXT: The probability distribution density function is determined for the gain of a pulse amplifier with AGC under the action of a sequence of pulses with random independent interval applied to its input. The analysis is carried out assuming a linear AGC control characteristic. The derivation of the distribution function is reduced to the solution of integral equations, and this is carried out for the case of the simplest (Poisson) input pulse distribution. The two cases of large and small pulse amplitude are considered. 1 reference. [Abstracter's note: Complete translation.] *VC*

Card 1/1

16,6550  
S/044/62/000/010/029/042  
B108/B102

AUTHOR: Medvedev, I.

TITLE: The calculation of difficult integrals and of some transcendental expressions in the electron model (note on methods)

PUBLICATION: Referativnyj zhurnal, Matematika, no. 10, 1962,  
36-37, abstract 101177 (Tr. Sibirsk. fiz.-tekhn. in-ta pri  
Tol'skom un-tu, no. 40, 1961, 58 - 63) ✓13

TEXT: A technique is set forth for the automatic computation of integrals not expressible in an analytical form, and of bulky transcendental expressions in one or more parameters. Such integrals or bulky expressions are reduced to systems of differential equations which are solved by simulating on electronic models. The following integrals and transcendental expressions are computed as examples:

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S/044/62/000/010/029/042  
The calculation of difficult integrals ... B108/B102

$$L(\theta, \lambda) = \frac{1}{\pi} \int_0^\infty e^{\lambda \cos x} dx; W(r) = \frac{1}{\pi} \int_{-\pi}^{\pi} \int_0^{\pi/2} \frac{1}{\cos t} \exp(-r^2/2\cos^2 t) dt;$$

$$x(r) = \int_0^x t \exp\left(-\frac{t^2 + a^2}{2}\right) I_0(at) dt;$$

$$I(t, \theta, n) = z(t) \ln z(t) + (1 - z(t)e^{-kt}) \ln \frac{1-z(t)}{k(t)}, \text{ where}$$

$$z(t) = \frac{e^{-(t-\theta)}}{1 - \exp(-t^2/2)}, \quad k(t) = ne^{-t^2/2}.$$

Abstracter's note: Complete translation.]

Card 2/2

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R001033220016-3

PETUKHOV, D., polkovnik; MEDVEDEV, G., inzh.-polkovnik

Efficiency-promoting communications troops demonstrate their  
achievements. Voen.vegt. 40 no.2:97-99 P '61. (MIRA 14:2)  
(Communications, Military)

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R001033220016-3"

4. 5240 (137, 115 1)  
S/141/61/004/002/007/017  
E140/E135

AUTHOR:

Medvedev, G. A.

TITLE:

The effect of the Palm pulse flux on receivers with capacitive integration. I.

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy,  
Radiofizika, 1961, Vol. 4, No. 2, pp. 275-281

TEXT: In the queuing theory a Palm flow designates a stationary ordinary flow of random events with limited after-effects, i.e., such that the time intervals between two successive events are mutually independent. By analogy, the author terms a stationary sequence of individual impulses with random mutually independent intervals a Palm pulse flux. Then all results relating to Palm flows in queuing theory can be extended to this pulse sequence. A Palm pulse flux is uniquely defined by the probability density distribution of the time interval between successive impulses, taken as the time between leading edges of two successive impulses. It is assumed in the paper that the time interval is always much greater than the pulse duration.  
The case considered is a parallel RC filter loading a diode

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The effect of the Palm pulse flux ...      S/141/61/004/002/007/017  
    E140/E135

detector, at the input to a RC ladder filter network. The author seeks the probability distribution of the voltages across the capacitors of the filter, in particular the voltage between two arbitrary points in the network taken as the output terminal. A straightforward analysis follows and is illustrated by calculating the voltage across the diode filter condenser, i.e. in the absence of the ladder filter network.

There are 1 figure and 1 Soviet reference.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut  
(Siberian Physico-technical Institute)

SUBMITTED: May 9, 1960

Card 2/2

39703  
S/142/62/005/002/006/019  
E192/E382

69400

AUTHOR: Medvedev, G.A.

TITLE: Noise immunity of a receiver with finite recovery time.  
The case of the simplest flow of perturbing signals

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,  
Radiotekhnika, v. 5, no. 2, 1962, 200 - 207

TEXT: A problem similar to that formulated by A.M. Vasil'yev  
(Elektrosvyaz', no. 3, 1957, 3) is considered, except that an  
arbitrary flow of perturbing pulses is assumed. The receiver  
has a finite recovery time  $\tau$  and accepts a periodic train of  
pulse signals having a period  $T$  ( $T < \tau$ ) and a train of per-  
turbing pulses which is in the form of a stationary set of pulses  
having an amplitude " $w$ ". The signal at the input of the receiver  
is thus in the form:

$$\Pi(t) = \bar{w} + q \sum_r \delta(t - rT)$$

where  $0 \leq q \leq 1$ , where  $q$  is the probability that the useful  
signal would be received. The noise-immunity of the receiver

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S/142/62/005/002/006/019

E192/E382

Noise immunity of ....

is defined as  $\frac{p'_o}{\bar{n}}$ , where  $p'_o$  is the probability that the useful signal would be received in the absence of the above type of noise, and  $\bar{n}$  is the average number of perturbing pulses which are accepted by the receiver during one repetition period. A quantity  $d$  is also defined:

$$\frac{p'_o}{\bar{n}} = d \left( \frac{p'_o}{\bar{n}} \right) *$$

which is referred to as the "noise-immunity figure"; the quantity  $(p'_o/\bar{n}) *$  is the noise immunity of an ordinary inertialess receiver. The probability  $p'_o = qp_o$ , where  $p_o$  is the probability that the receiver is not blocked at the instant  $rT$ . Implicit formulae for  $p_o$  and  $\bar{n}$  are:

$$p_o = 1 - \left\{ p(T - \sum \xi) d \sum \xi \right\} \quad (3)$$

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S/142/62/005/002/006/019  
E192/E382

Noise immunity of ....

N+1

and

$$\bar{n} = \sum_{n=0}^{N+1} nP_n ,$$

where  $P_n$  is the probability that  $n$  perturbing pulses are received during  $T$ , while  $(N + 1)$  is the maximum possible number of pulses received during one period. The explicit expressions for  $p'_o$  and  $\bar{n}$  are also derived and it is shown that the expression for  $p'_o$  is particularly simple when

$\tau/T = 1/2$ . The resulting formulae are used to construct a set of graphs which are illustrated in Fig. 1. These show the noise-immunity figure  $d$  as a function of  $\tau/T$ . It is seen from the figure that a receiver with a finite recovery time has a higher noise immunity than the ordinary inertia-less receiver and that an increase in  $\tau$  for any values of  $\tau/T$  increases  $d$ . There is 1 figure.

Card 3/4

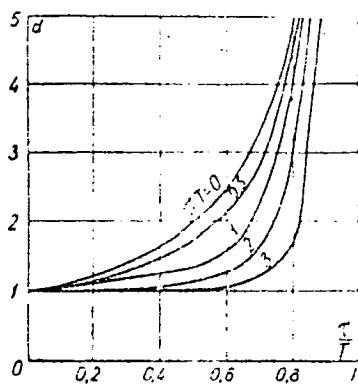
S/142/62/005/002/006/019  
E192/E382

Noise immunity of ....

ASSOCIATION:- Kafedra elektronnoy vychislitel'noy tekhniki  
i avtomatiki Tomskogo gos. universiteta im.  
v.V. Kuybysheva (Department of Electronic  
Computing and Automatics of Tomsk State University  
im. V.V. Kuybyshev)

SUBMITTED: June 22, 1960

Fig. 1:



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9.3230

S/141/62/005/003/008/011  
E140/E463

AUTHOR: Medvedev, G.A.

TITLE: The effect of the Palm pulse flux on radio circuits with capacitive memories II

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika, v.5, no.3, 1962, 549-560

TEXT: The results obtained in part I (Izv.VUZ Radiofizika, v.4, 1961, 275) are applied to the study of the effect of a stationary random sequence of independent identical pulses on (1) a pulse detector without filter and (2) a receiver with AVC, containing this detector in the AVC loop. In the first case the asymptotic distributions for the output voltage probability and expressions for its moments are obtained and illustrated by curves. In the second case the effect of the simplest flux of short impulses on the AVC amplifier is obtained under two operating conditions - with high and low amplitudes of the input pulses. There are 5 figures. ✓C

ASSOCIATION: Sibirskiy fiziko-tehnicheskiy nauchno-issledovatel'skiy institut (Siberian Physico-technical Scientific Research Institute)

SUBMITTED: October 11, 1961

Research Institute)

Card 1/1

\* S/141/61/004/002/007/017 .

17,7302  
S/142/62/005/004/004/010  
E140/E463

AUTHOR: Medvedev, G.A.

TITLE: Quantization of signals received in the presence of noise

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Radiotekhnika, v.5, no.4, 1962, 483-491

TEXT: The theory of statistical decision processes is applied to obtain optimal thresholds for binary and multi-threshold quantization of signals received in the presence of noise. In a broad class of systems the optimal values depend not only on the detector preceding the quantization circuit but on the parameters of the entire system. The criterion used is the minimum risk defined in terms of the loss function. The quantization process is viewed as a process distorting the true signal, as is also the noise. Considering first binary quantization, the author assumes that successive observations are statistically independent, as is the case in radar at a given point of the timebase. The risk function is defined and from it the threshold for which the mean risk is minimized. The increase in the number of levels reduces the information loss of the system, but makes it more complicated

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S/142/62/005/004/004/010  
E140/E463

Quantization of signals ...

and less reliable. The threshold values are again derived making the risk a minimum. However, the computations involved in solving the formulae for optimal threshold are very laborious and complex. The author therefore derives simplified asymptotic formulae using the de Moivre-Laplace local limit theorem. In conclusion, the efficiency of binary quantization in the presence of an additive normal noise and when the signal is subject to Rayleigh statistics is considered. It is shown that the use of quantization permits a substantial simplification in comparison with a receiver not using this procedure. However, the risk is substantially greater for the former configuration. Curves are given showing that the optimal threshold depends weakly on the magnitude of the useful signal, the number of observations and a parameter defining the loss. The risk has a weakly expressed minimum, so that the optimal threshold is not too critical. An appendix gives the loss expressions for three-threshold systems. There are 2 figures.

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Quantization of signals ...

S/142/62/005/004/004/010  
E140/E463

ASSOCIATION: Kafedra elektronnoy vychislitel'noy tekhniki i  
avtomatiki Tomskogo gos. universiteta im.  
V.V.Kuybysheva (Department of Computer Engineering and  
Automatics, Tomsk State University imeni  
V.V.Kuybyshev)

SUBMITTED: June 5, 1961 (initially)  
September 5, 1961 (after revision)

Card 3/3

MEDVEDEV, G.A.

Quantization in the detection of signals received in the  
presence of noise. Izv. vys. ucheb. zav.; radiotekh. 5  
no.4:483-491 Jl-Ag '62. (MIRA 16:6)

1. Rekomendovana kafedroy elektronnoy vychislitel'noy tekhniki  
i avtomatiki Tomskogo gosudarstvennogo universiteta im. V.V.  
Kuybysheva. (Radio Receivers and reception)  
(Information theory)

ACCESSION NR: AP3002613

S/0280/63/000/003/0094/0102

AUTHOR: Medvedev, G. A. (Tomsk)

TITLE: Behavior of a step system of automatic search under the influence of random noise

SOURCE: AN SSSR. Izv. Otd. tekhn. nauk. Tekhnicheskaya kibernetika, no. 3, 1963, 94-102

TOPIC TAGS: automatic-control system, signal-flow graph, noise, random noise

ABSTRACT: A method is developed for determining the distribution of probabilities of a step system that is subjected to the influence of random noise. Piecewise linear and parabolic characteristics of the controlled system were considered by other authors; the present article deals with a generalized characteristic. The behavior of the step system is described by signal flow graphs

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ACCESSION NR: AP3002613

after W. W. Happ (Proc. IRE, 1957, 45, 9). As an example, an optimization-control system with a nonsymmetrical piecewise linear characteristic is examined; by introducing a threshold into the algorithm of the controlling unit, the system inertia and efficiency have been increased. Orig. art. has:  
7 figures and 37 formulas.

ASSOCIATION: none

SUBMITTED: 04Jul62 DATE ACQ: 16Jul63 ENCL: 00

SUB CODE: IE NO REF SOV: 003 OTHER: 003

Card 2/2

MEDVEDEV, G.A. (Tomsk)

Behavior of a stepping-type automatic search system subject  
to the action of random interference. Izv. AN SSSR. otd. tekhn.  
nauk. tekhn. kib. no.3:94-102 My-Je '63. (MIRA 16:7)

(Automatic control)

L 38595-65 EWT(d)/EPF(n)-2/ENP(v)/EWP(k)/EWP(h)/EWP(I) Po-4/Pq-4/Pf-4/Pg-4/  
Pu-4/Pk-4/P1-4 IJP(c) NM/BC  
ACCESSION NR: AR5006745 S/0044/64/000/012/V038/V038

SOURCE: Ref. zh. Matematika, Abs. 12V203

AUTHOR: Medvedev, G. A.; Matushevskiy, V. V.

TITLE: Effect of interference on the simplest system for automatic location of extrema

CITED SOURCE: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-tse, vyp. 44, 1984,

G-98

TOPIC TAGS: automatic search, extremum indicator, optimization, interference,  
automatic control system, search algorithm, Volterra integral

TRANSLATION: A system for the automatic location of extrema is investigated, in which the controlled object is under the influence of an external force  $\mu$ , whose size is unknown and in the general case seems random. The controlling portion of the automatic search system acts on the motion of the controlled object by means of a directing force  $\mu$ . The control portion is intended to maintain the value of  $x$  at the system output with respect to the minimum possibility; it works in discrete time, i.e. the change in  $\mu$  proceeds instantaneously, the jump occurring sequentially after an interval of time  $T$ . In a backward connected chain there exists a random perturbation  $h$ , which does not allow error-

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L 38595-65

ACCESSION NR: AR5006745

free measurement of the quantity  $x$ . It is assumed that the controlled object has no inertia and is such that  $x(t) = f(u(t))$ ,  $|\mu| = |u(t) + \mu|$ . The operation of the control portion is subdivided into two stages (it is made of two channels): a stage of test motion and a stage of operational motion. The influence of their perturbation on the automatic search system with piece-wise linear characteristics of the object and an algorithm of search using extrapolation is investigated. The algorithms of the test-motion stage and the operational motion stage are described. The character of the motion of the search system is such that the system constantly wanders around the value  $u = \mu$ . The character of this oscillation is determined by the parameters of the system as well as by the perturbation  $h$  and the inner perturbation  $\mu$ . The measures of effectiveness of the derived system are: 1. The mathematical expectation and dispersion of the deviation of the output value from its least value; 2. The mathematical expectation and dispersion of the time for extremum search. An analysis of these characteristics is made and their dependence on the system parameters is established. Assuming that the function giving the space distribution of the probabilities  $W(h)$  of the perturbation in the reverse-connected channel is known, the formulas for the mathematical expectation and the dispersion of the output

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I. 38595-65

ACCESSION NR: AR5006745

$$M(x) = \int_0^{\infty} v [p(v) - p(-v)] dv$$

value of the regulated object can be derived:

$$D(x) = \int_0^{\infty} v^2 [p(v) - p(-v)] dv = (M(x))^2,$$

where  $v = u + \mu$ . The time of search for the extremum is investigated in detail. Expressions are derived for the locations of the mean time of extremum search and the dispersion of the time of search. The concrete case of the presence of Gaussian forces in inversely connected chains is considered. It is shown that in this case the equation for the spatial probabilities  $p(v)$  are special Volterra integral equations, the analytic solution of which the author has not been able to obtain. For the determination of the function  $p(v)$ , the method of iteration is used. The analytic solution  $p(v)$  is found for particular cases.

ENCL: 00

SUB CODE: MA, IE

Card 3/3 *L/C*

L 45659-65 EWT(d)/EWP(1) Po-4/Pq-4/Pg-4/Pae-2/Pk-4/P1-4 IJP(c) BC

ACCESSION NR: AR5011511

UR/0372/65/000/002/0004/0004

SOURCE: Ref. zh. Kibernetika. Sv. t., Abs. 2019

33

B

AUTHORS: Medvedev, G. A.; Matushevskiy, V. V.

TITLE: Concerning optimal working motion in automatic search systems

CITED SOURCE: Tr. Sibirsk. fiz.-tekh. in-ta pri Tomskom un-tse, vyp. 44, 1964,  
99-102

TOPIC TAGS: system optimization, statistical solution theory, extremum search,  
minimax principle

TRANSLATION: The authors consider the application of the theory of statistical  
solutions to the optimization of the working motion in systems in which automatic  
search of the extremum takes place with extrapolation. A block diagram is pre-  
sented of the system comprising the following: the control object with input quan-  
tity  $u$  and output quantity  $x$  (the connection between which is given by the formula  
 $x = f(u + \mu)$  where  $\mu$  is a random parameter), and a control part which is connected  
with the output of the object by a channel with noise  $\eta$  and which applies a control

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ACCESSION NR: AR5011511

signal  $u$  to the input of the controlled object. It is assumed here that the correlation time of the random process  $\mu$  is much longer than the correlation time of the noise  $R$ . The control part establishes, during successive instants of time  $t_i$  ( $i = 1, 2, \dots, n$ ), a prescribed sequence of "trial" values  $\{u_i\}$  and on the basis of the corresponding sequence of values  $\{y_i\}$  it generates a control signal  $u$  that minimizes the output quantity  $x$ . Assuming that the minimum of  $x$  is obtained when  $u + \mu = 0$ , one arrives at a search system which should solve the problem of estimating the parameter  $\mu$ . The problem is considered on the basis of a cost criterion. The optimal estimate on the basis of the criterion of minimum average risk, for a cost function of the quadratic error type, is equal to

$$\vec{y}_*(\vec{u}) = \frac{\int_{\Omega} \mu W(\vec{y}, \mu) \sigma(\mu) d\mu}{\int_{\Omega} W(\vec{y}, \mu) \sigma(\mu) d\mu}$$

where  $W(\vec{y}, \mu)$  is the joint probability density of  $\vec{y}$  and  $\mu$ ,  $\sigma(\mu)$  is the a priori distribution of  $\mu$ , and  $\Omega$  is the region of variation of  $\mu$ . The symbol  $\vec{y}$  denotes the aggregate quantities  $\{y_i\}$  ( $i = 1, 2, \dots, n$ ). For the cases  $x = f(u + \mu)$  it is proved that the uniform a priori distribution of  $\sigma(\mu)$  is the least favorable and

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ACCESSION NO: AR5011511

that the Bayes estimate  $T_0(\vec{Y})$  is also the minimax estimate. Using a concrete example, the authors indicate a gain relative to the average losses when the optimal solution is used (compared with the solution normally employed). 1 illustration. Bibliography, 1 title. V. M.

JOB CODE: DP, IE

ENCL: 00

me  
Card 3/3

L 143SC-65 AFETR/APCC(5)/RAEM(i)/ESD(dp)

ACCESSION NR: AP4043469

S/0103/64/025/008/1170/1181

AUTHOR: Medvedev, G. A. (Tomsk)

TITLE: Synthesis of asymptotically optimal dual control systems

SOURCE: Avtomatika i telemekhanika, v. 25, no. 8, 1964, 1170-1181

TOPIC TAGS: asymptotically optimal systems, dual control system, control system synthesis, almost optimal system, risk function, optimal estimate

ABSTRACT: The synthesis of "almost optimal" (asymptotically optimal) control systems that can be more easily computed than optimal systems is considered. The proposed method for synthesizing the "almost optimal" dual control system uses a modified procedure for the solution of the fundamental equation of the theory of a dual control. Instead of one equation for determining the optimal control function  $U_k^*$ , two equations are derived; i.e., the process of determining the optimal solution is divided into two stages: 1) determination of the optimal value of  $U_k^*$  as a function of the parameters  $\bar{U} = \{u_1, u_2, \dots, u_k\}$  under the assumption that the controlled object is already

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ACCESSION NR: AP4043469

studied and the values of the parameters  $\mu$  are determined; and 2) determination of an optimal estimate  $\hat{U}_k^*$  ( $U_{k-1}^*$ ,  $Y_{k-1}$ ,  $Y_k^*$ ) which minimizes the risk function and on the basis of which the optimal control  $U_k^*$  can be determined. The peculiarities of the solution of the two equations are analyzed. It is stressed that the simplest form of the first equation can be obtained in the case of an inertia-free object and that the solution of the second equation is difficult. Therefore, the author proposes the use of any consistent estimate in place of the optimal estimate of the parameters  $\mu$  and to calculate  $U_k^*$  which will be not strictly optimal but will converge toward the optimal control  $U_k^*$  when  $k \rightarrow \infty$ . The synthesis of such an "almost optimal" dual system is considered to be simpler. An example presented shows how much the solution obtained differs from the optimal one. For determining consistent estimates, the methods of mathematical statistics can be applied. Application of the method is illustrated by two examples. Orig. art. has: 37 formulas and 4 figures.

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L 14338-65  
ACCESSION NR: AP4043469

ASSOCIATION: none

SUBMITTED: 08Feb63

ENCL: 00

SUB CODE: MA

NO REF SOV: 004

OTHER: 001

Card 3/3

L 62596-65 EPF(r)-2/EWT(d)/EWP(1) FG-4/Pk-4/Pl-4/Po-4/Pq-4/Pu-4/Pae-2  
ACCESSION NR: AR5005492 IJP(c) WW/EC S/0271/64/000/012/A048/A048  
62-506

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Sv. t., B  
Abs. 12A266

AUTHOR: Medvedev, G. A.; Matushevskiy, V. V.

TITLE: Effect of noise on a simplest automatic extremum-search system

CITED SOURCE: Tr. Sibirs. fiz.-tekhn. in-ta pri Tomskom un-tse, vyp. 44, 1964,  
86-98

TOPIC TAGS: extremum search, automatic extremum search, automatic control system,  
automatic control theory

TRANSLATION: An automatic extremum-search system (AES) is considered in which the plant is subjected to an unknown or random external disturbance  $\mu$ . The AES control is intended for maintaining the output  $x$  as low as possible; the control operates in a discrete way, i. e., the variation  $u$  takes place stepwise in time intervals  $T$ . In the feedback circuit, a random noise  $h$  exists that precludes exact measurement of  $x$ . It is assumed that the plant is inertialess and describable by  $x(t) = f(u(t)) + \mu$ . The control unit operation can be subdivided into two

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ACCESSION NR: AR5065492

stages (two channels): dither and operation. The effect of noise on AES is investigated, with a piecewise-linear plant characteristic and an extrapolation-search algorithm. The algorithms of both dither and operation are described. AES makes such steps that the system is always hunting about the value  $u = M$ . The nature of this hunting is determined by both the system parameters and the noise  $h$  plus external disturbance  $m$ . The AES efficiency is apprised by:

1) the mathematical expectation and the dispersion of output deviation from its minimum and (2) the mathematical expectation and the dispersion of extremum-search time. These characteristics are analyzed, and their relations with the system parameters are established. Assuming that the probability-density distribution function  $W(h)$  of the feedback-channel noise is known, these formulas for the mathematical expectation and dispersion of the plant output are derived:

$$M(x) = \int_0^{\infty} v [p(v) - p(-v)] dv$$
$$D(x) = \int_0^{\infty} v^2 [p(v) - p(-v)] dv - [M(x)]^2,$$

here  $v = u + M$ . The time of extremum search is investigated in detail. Formulas for the average extremum search time and dispersion are presented. A specific

end 2/3

L 62596-65

ACCESSION NR: AR5005492

case with Gaussian noise in the feedback is considered. It is proven that in this case the probability density  $p(v)$  relation is a singular Volterra-type integral equation whose analytical solution is impossible. The iteration method is used for finding the  $p(v)$  function. An analytical solution of  $p(v)$  for particular cases is found. One illustration. Bibliography: 1 title.

SUB CODE: DP, IE

ENCL: 00

Card 3/3

L 00010-66 EWP(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACCESSION NR: AR5006443

UR/027L/ 65/000/002/A015/A015  
62-905

5/  
B

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika.  
Svodnyy tom, Abs. 2A79

AUTHOR: Medvedev, G. A.; Matushevskiy, V. V.

TITLE: Optimal working transition in automatic-search systems

CITED SOURCE: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, vyp. 44, 1964,  
99-102

TOPIC TAGS: automatic search, optimal automatic search, automatic control,<sup>9,55</sup>  
automatic control design, automatic control system, automatic control theory

TRANSLATION: Using the theory of statistical decisions in the problem of optimization of the working transition in the systems of automatic extremum search with extrapolation is considered. A block diagram is shown which includes: a plant with input  $u$  and output  $x$  which are tied by this formulas,  $x = f(u + \eta)$ , where  $\eta$  is a random parameter; a controller connected to the plant by a link having noise  $h$  and applying to the plant input, the controlling signal  $u$ . The correlation

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L 30010-66

ACCESSION NR: AR5008443

time of  $\mu$  is assumed to be much longer than the correlation time of  $\eta$ . The controller establishes, in consecutive time moments  $t_i$  ( $i = 1, 2, \dots, n$ ), a preset sequence of "trial values"  $\{u_i\}$  and on the basis of the corresponding sequence  $\{y_i\}$ , generates controlling signal  $u$  that minimizes output  $x$ . Assuming that a minimum  $x$  is obtained with  $u + \mu = 0$ , the search system is found which should evaluate  $\mu$ . The problem is considered on the basis of a cost criterion. An optimal estimator through the average-risk-minimum criterion, with a cost function of the square-error type, is given by:

$$v_e(\vec{y}) = \frac{\int_{\Omega} \mu \omega(\vec{y}, \mu) \sigma(\mu) d\mu}{\int_{\Omega} \omega(\vec{y}, \mu) \sigma(\mu) d\mu},$$

where  $\omega(\vec{y}, \mu)$  is the joint density of probability of  $y$  and  $\mu$ ;  $\sigma(\mu)$  is an a-priori distribution of  $\mu$ ;  $\Omega$  is the range of variation of  $\mu$ . The symbol  $\vec{y}$  denotes a set  $\{y_i\}$ ,  $i = 1, 2, \dots, n$ . For the case  $x = f(u + \mu)$ , it is proven that the uniform a-priori distribution of  $\sigma(\mu)$  is the least favorable; the Bayes estimator  $v_e(\vec{y})$  is also a minimax one. A specific example is used to show the average loss saving through using the optimal solution instead of the conventional. Ill. 1. Bibl. 1.

Card 2/2 mbr SUB CODE: IE

ENCL: 00

MEDVEDEV, G.A. (Tomsk)

Analysis of discrete Markovian systems by means of stochastic graphs.  
Avtom. i telem 26 no.3:485-491 Mr '65. (MIRA 18:6)

L 05284-67 ENT(d)/EWP(1) IJP(e) BB/GG/GD  
ACC NR: AT6022673 SOURCE CODE: UR/0000/66/000/000/0060/0066

AUTHOR: Medvedev, G. A.

45  
B+1

ORG: none

TITLE: Certain problems of optimal pattern recognition 16

SOURCE: Moscow. Institut avtomatiki i telemekhaniki. Samoobuchayushchiesya avtomatičeskiye sistemy (Self-instructing automatic systems). Moscow, Izd-vo Nauka, 1966, 60-66

TOPIC TAGS: pattern recognition, character recognition, recognition process, random process, automaton

ABSTRACT: This article examines problems associated with the structure of a device making a decision in conformity with some situation arising in the external environment. The device receives information through sensing elements. The recognizer has n sensing elements, to each of which a certain number a is ascribed. It is assumed that each of the sensing elements can be only in one of two states: 1 (excited) and 0 (not excited). The situation arising in the external environment is presented to the recognizer in the form of some realization of an image. A random process, or more conveniently a random vector, is called the pattern. The

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ACC NR: AT6022673

external environment reflects the presence of only  $k$  situations, i.e.,  $k$  is the number of all possible different images, the realization of which can be observed by the recognizer. As the result of an analysis a type of neuron is found which provides an optimal state in the sense of minimization of the risk function when recognizing patterns which are random vectors with statically independent components. Generally speaking, the obtained structure of the neuron differs from those described in the literature. However, the examined threshold scheme ensures an optimal state only when recognizing patterns with independent components which constitute a rather narrow class among patterns, the recognition of which is of interest. Only one of the possible physical interpretations of such a pattern is given as an example. Undistorted two-dimensional characters (for example, letters of the Russian alphabet) are taken as images. These characters are always depicted in the same dimensions, are not shifted, and are not rotated, and their pattern is distorted in such a manner that any local distortion affects only the excitation of one sensing element and all local distortions are statistically independent. Orig. art. has: 12 formulas.

09

SUB CODE: 05, 00/ SUBM DATE: 02Mar66/ ORIG REF: 002/ OTH REF: 003

Card 2/2 *egfz*

L 05287-67 EXP(d)/EXP(v)/EXP(k)/EXP(h)/EXP(i) GD  
ACC NR: AT6022704 SOURCE CODE: UR/0000/66/000/000/0408/0419

AUTHOR: Avseyenko, V. V.; Medvedev, G. A.; Ravodin, O. M.

35

B+1

ORG: none

TITLE: Continuous extremal systems

SOURCE: Moscow. Institut avtomatiki i telemekhaniki. Samoobuchayushchiyeся avtomati-  
cheskiye sistemy (Self-instructing automatic systems). Moscow, Izd-vo Nauka, 1966, 408-419

TOPIC TAGS: automatic control theory, circuit design, random noise signal

ABSTRACT: This article gives a general description and structure of a continuous extremal system in which information is extracted from realization of the output quantity of the object on a sliding time scale of fixed length which is limited at the top and at the bottom. The design features and technical characteristics of an experimental model are given schematically and the function of each component is elucidated. The system has the following technical characteristics: passband width 0.5 cps; range of voltage change at the output of the sum-mators and integrators  $\pm 100$  v; amplitude of the search disturbances 4.5 v; duration of the search disturbances 0.1 sec; off-duty factor 1/2; delay time 0.1 sec; a duration of 100 sec of

Card 1/2

L 05287-67

ACC NR: AT6022704

the time interval over which the output of the controlled system is averaged; the errors in the voltage magnitude during operation of the system are determined by the corresponding errors of the electron model (10% of the maximal deviation of the scale, i.e., within  $\pm 10\text{v}$ ); and the accuracy of measuring the search time is 0.125 sec. The authors experimentally recorded the dependence of the average search time on the amplitude of the search disturbances, on the variance of noises at the input and output of the controlled system, on the relationship of the repetition period of the search disturbances and noises at the input of the controlled object, and on the shape of the search disturbances, as well as the dependences of the average output value of the controlled system of the same quantities. The experimental results showed that in the presence of noises there is always an optimal value of the amplitude of the search disturbances which minimizes the mathematical expectation of the output ( $M_x$ ). The extremum of the characteristic  $M_x$  ( $u_{\text{search}}$ ), where  $u_{\text{search}}$  is the amplitude of the search disturbances, is always expressed more markedly, the smaller the value of  $\sigma^2$  on the envelope of the noise at the input. The search time is inversely proportional to the amplitude of the search disturbances in the case of the linear equation and depends little upon it in the case of the relay equation at sufficiently high values of  $u_{\text{search}}$ . An increase of the transmission factor of the summator in all cases led to a decrease of  $M_x$  and the average search time. Orig. art. has: 1 formula, and 25 figures.

SUB CODE: 13, 09, 12 SUBM DATE: 02Mar66/ ORIG REF: 001

Card 2/2 egs

ACC NR: AR6026526

SOURCE CODE: UR/0372/66/000/004/G016/G016

AUTHOR: Medvedev, G. A.; Lis'yev, V. P.

TITLE: Efficient estimates of near-optimal Markovian dual control systems

SOURCE: Ref. zh. Kibernetika, Abs. 4G117

REF SOURCE: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-tse, vyp. 47, 1965, 88-103

TOPIC TAGS: automatic control system, optimal control, Markov process, variational problem

ABSTRACT: The solution of equations determining optimal control for dual automatic control systems cannot always be completed owing to their great complexity. It is proposed that in this case efficient estimates be employed to determine the unknown system parameters and, on this basis, near-optimal controls be constructed. It is assumed that the value of the output coordinate  $y_i$  of the controlled system depends on noise  $\mu_i$ , represented by a stationary Markov chain with a specified mathematical expectation and correlation function. It is proposed that the estimate

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UDC: 62-505

ACC NR: AR6026526

$$\lambda_{s+1} = \frac{\sum_{i=0}^s \rho^{s-i} \mu_i}{\sum_{i=0}^s \rho^{s-i}} \quad 0 \leq \rho \leq 1 \quad (1)$$

be utilized to extrapolate the magnitude of the effect of  $\mu_i$  at the  $s+1$  stage. The conditions for the minimum variance of estimate (1) are derived. In the event that the equation of the controlled system is  $y_s = v_s + \mu_s$ , estimate (1) is compared with the estimate yielded by the solution of the optimization problem. The estimates are obtained in the same form with different values of the parameter  $\rho$ . The statistical properties of estimate (1) are examined for the case where noise  $\mu_i$  is multiplicative and the equation of the controlled system is  $y_s = \mu_s v_s$ .  
Illustration. Bibliography of 2 titles. A. G. [Translation of abstract]

SUB CODE: 09, 12

Card 2/2

ACC NR: AR6029332

SOURCE CODE: UR/0274/66/000/005/A007/A007

AUTHOR: Medvedev, G. A.; Tarasenko, F. P.

TITLE: Some criteria for optimal quantization of cw signals

SOURCE: Ref. zh. Radiotekhnika i elektronika, Abs. 5A37

REF SOURCE: Tr. Sibirs. fiz.-tekhn. in-ta pri Tomskom un-te, vyp. 47, 1965, 155-162

TOPIC TAGS: signal quantization, signal reception, signal noise separation, signal detection

ABSTRACT: Two classes of optimality criteria of the quantization threshold of a received signal, in a detection system, are compared: (a) cost criteria connected with mean-risk minimization and (b) information criteria. The cost approach with the mean-risk minimization solves the problem of optimal threshold in a broader sense; however, this approach comes close to the informational at the decision-making phase. The cost approach may be given an information interpretation; however, from the viewpoint of obtaining maximum information, the equation for optimal quantization threshold differs from the corresponding equation for minimum mean loss. The case of binary quantization of a signal mixed with additive Gaussian noise is analyzed in detail. It is proven that, despite different optimality criteria, the optimal thresholds are close to each other. Two figures. Bibliography of 8 titles.  
L. S. [Translation of abstract]

Card 1/1 SUB CODE: 09. 17

UDC: 621.391.134

MEDVEDEV, G.G., inzh., otv. za vypusk; BOBROVA, Ye.N., tekhn. red.

[The TGM3 diesel locomotive; operation and maintenance manual] Teplovoz TGM3; rukovodstvo po ekspluatatsii i obsluzhivaniyu. Moskva, Transzheldorizdat, 1962. 206 p.  
(MIRA 15:11)

1. Lyudinovskiy teplovozostroitel'nyy zavod.  
(Diesel locomotives)

RAKHMATULIN, M.D., kand.tekhn.pauk; MEDVEDEV, G.G., inzh.

Improving the technology for the assembly of the piston and  
connecting rod block of the 2D100 diesel locomotive. Elek. i  
tepl.tiaga no.8:10-12 Ag '63. (MIRA 16:9)  
(Diesel locomotives--Maintenance and repair)

POYDA, A.A.; KOKOSHINSKIY, I.G.; TITOV, A.N., retsentent; MOISEYEV,  
G.A., retsentent; KHARLAMOV, P.G., retsentent; KESAREV,  
A.P., retsentent; RUKAVISHNIKOV, Yu.A., retsentent;  
MEDVEDEV, G.G., retsentent; PALKIN, A.P., retsentent;  
BOL'SHAKOV, A.S., retsentent; KHITROVA, N.A., tekhn.red.

[Mechanical equipment of diesel locomotives] Mekhanicheskoe  
oborudovanie teplovozov. Moskva, Transzheldorizdat, 1963.  
463 p.  
(MIRA 17:2)

VEDENSKIY, O.N.; DMITRIYEV, N.I.; KOROLEV, V.A.; TURGUNOV, D.T.;  
MEL'NIKOV, V.Ye., red.; MEDVEDEV, G.G., inzh., retsenzent;  
MURAV'YEVA, N.D., tekhn. red.

[Maintenance and repair of TGM3 diesel locomotives in the  
depot] Remont teplovozov TGM3 v depo. Moskva, "Transport,"  
1964. 107 p. (MIRA 17:3)

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R001033220016-3

MOROZOV, V.I.; VORONICHEV, N.M.; NAUDIN, Yu.V.; GARMAZA, V.A.; MEDVEDEV, G.I.;  
KAMENETSKIY, I.M.; IZOKH, V.V.; BARASHKOV, V.D.; EMPARAPULO, V.Kh.;  
RAYEVSKIY, N.P.; FASHKOV, Yu.M.; GRISHIN, V.P.; SMOLOV, I.I.;  
ROMANENKO, Yu.M.; SAKHAROV, B.B.

Innovations. Avtom. i prib. no.2:61-62 Ap-Je '65. (MIRA 18;7)

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R001033220016-3"

MEDVEDEV, G. L. Dr. Tech. Sci.

Dissertation: "Certain Dynamic Problems of Footings and Foundations." Moscow  
Hydraulic Engineering and Soil Improvement Inst., imeni V. R. Vil'yams, 16 May 47.

SO: Vechernaya Moskva, May, 1947 (Project #17836)

MEDVEDEV, G. M.

Knitting Machines

Economical utilization of auxiliary parts. Leg. prom. 12, no. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

NESTEROV, S.V.; MEDVEDEV, G.N.

Steady vibrations of the free surface of an infinite rectangular basin. Vest.Mosk.un.Ser.3.Fiz., astron. 17 no.2:24-28 Mr-Ap '62.  
(MIRA 16:2)

1. Kafedra matematiki fizicheskogo fakul'teta Moskovskogo universiteta.  
(Vibration) (Frequencies of oscillating systems)

VOLOSOV, V.M.; MEDVEDEV, G.N.; MORGUNOV, B.I.

Use of the method of averaging in solving certain systems of  
differential equations with delayed argument. Vest. Mosk. un.  
Ser. 3: Fiz., astron. 20 no.6:89-91 N-D '65.

(MIRA 19:1)

1. Kafedra matematiki Moskovskogo universiteta. Submitted  
June 28, 1965.

9,2530 (1068,1164)

21353

S/118/60/000/011/009/014  
A161/A133

AUTHOR: Medvedev, G.P., Engineer

TITLE: Application of magnetic amplifiers in conveyer control circuits

PERIODICAL: Mekhanizatsiya i avtomatzatsiya proizvodstva, no. 11, 1960,  
33-36

TEXT: Magnetic amplifiers used as intermediate links between an inductive pickup and a MKY -48 (MKU-48) relay in control circuits ensure the automatic control being reliable. The Moskovskiy elektromashinostroitel'nyy zavod (Moscow Electric Machine Plant) produces TYM -A1-11 (TUM-A1-11) and TYM -A1-16 (TUM-A1-16) amplifiers with toroidal core, made from "3-320" steel. Three automatic remote control circuits for these amplifiers are described - for three conveyers in line (Fig.3), so interblocked that stopping of one, or slowing or stopping of a band or chain in one automatically stops the entire line, without control board; a remote control circuit including a control board that makes it possible to watch the operation of every conveyer in the line on two wires (Fig.4); and circuit for

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S/118/60/000/011/009/014  
A161/A133

Application of magnetic amplifiers ...

more than 3-4 conveyers in line and such where an MKU-48 relay cannot be used as intermediate link. In the latter circuit (Fig.6) the control apparatus is provided for every conveyor in separate units; it has been designed by Laboratoriya avtomatizatsii ГИГKhС (Automation laboratory of GIGKhS) for automation of the conveyor lines at the "Apatit" combine, and tested at the classification plant at one of the combine's mines (it replaced 9 workmen). The operation of this system is described as follows. When the "start" push-button is pressed, the РПП relay with normally open contacts switches on the Р<sub>1</sub> relay into the circuit plus feed -ОУ<sub>3</sub> -ОУ<sub>2</sub> -ОУ<sub>1</sub> - normally open РПП contact - D<sub>n</sub> diode - relay Р<sub>1</sub> coil - n.o. РПП contact - "stop" button - minus feed. The Р<sub>1</sub> relay switches on by its contact the intermediate relay of the F<sub>1</sub> starter. When the band or the chain of the first conveyor is moving, the inductive pickup produces a sufficient emf for the РС<sub>1</sub> relay coil to operate (the coil is connected as load to the magnetic amplifier of the first conveyor). The F<sub>1</sub> relay with normally open contacts shunts the D<sub>n</sub> diode and produces a circuit for the operation of the Р<sub>3</sub> relay of the second conveyor, and so on. The "start" push-button can be released after the last conveyor is switched on. The D<sub>n</sub> diodes are shunted by the РС relay

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Application of magnetic amplifiers ...

S/118/60/000/011/009/014  
A161/A133

contacts, and therefore the release of the button and changed polarity of the P relay feed will not stop the line. But the interruption of the signal from the pickup in any of the conveyors will stop this conveyor and all the following conveyors.. The visual start control is the same as in Fig.4, with the difference that the P relay coils are used instead of resistors in the magnetic amplifier control circuits. The relay coils produce currents for lighting the lamps on the control board. The "stop" button is for stopping the entire line. The system proved highly dependable in test. There are 6 figures.

Card 3/6

MEDVEDEV, G.P., inzh.

Automation fo the Kirov Mine Crushing and Sorting Plant, Gor. zhur.  
no.3:60-63 Mr '61. (MIRA 14:3)

1. Gosudarstvennyy institut gornokhimicheskogo syr'ya. Lyubertsy,  
Moskovskoy obl.  
(Khibiny Mountains--Ore dressing)  
(Automatic control)

MEDVEDEV, G.S.

Materials on the fauna and the habitat distribution of the  
darkling beetle (Coleoptera, Tenebrionidae) in the Badkhyz  
Mountains. Izv. AN Turk. SSR no.5:60-68 '58.

(MIRA 11:12)

1.Zoologicheskiy institut AN SSSR.  
(Badkhyz Mountains--Beetles) (Badkhyz Mountains--Fauna)

MEDVEDEV, S.I.; MEDVEDEV, G.S.

Description of the larvae of two species of dung beetles  
(Coleoptera, Scarabaeidae) from Turkmenia. Ent. oboz. 37  
no. 4: 909-913 '58. (MIRA 11:12)

I. Kafedra entomologii Khar'kovskogo gosudarstvennogo  
universiteta, Khar'kov.  
(Kara-Kala--Scarabaeidae) (Syunt, Mount--Scarabaeidae)

MEDVEDEV, G.S.

Genus Aphaleria Rtt. (Coleoptera, Tenebrionidae) and its systematic position. Ent. oboz. 38 no.1:219-222 '59. (MIEA 12:4)

1. Zoologicheskiy institut AN SSSR, Leningrad.  
(Darkling beetles)

MEDVEDEV, G.S.

Types of mouth parts in darkling beetles (Tenebrionidae) of  
Turkmenistan. Zool.zhur. 38 no.8:1214-1229 Ag '59.  
(MIRA 12:11)

1. Zoological Institute of the Academy of Sciences of the  
U.S.S.R., Leningrad.  
(Turkmenistan--Darkling beetles)  
(Insects--Anatomy)

MEDVEDEV, G.S.

Muscles of the mouth parts and pharynx in desert darkling beetles  
(Coleoptera, Tenebrionidae) of Turkmenistan [with summary in  
English]. Ent. oboz. 39 no.1:106-121 '60. (MIRA 13:6)

1. Zoologicheskiy institut Akademii nauk SSSR, Leningrad.  
(Turkmenistan--Darkling beetles) (Insects--Anatomy)

ABRAMOV, M.I.; BELIZIN, V.I.; DEVITSKIY, S.M.; ZATULA, V.I.; ZOLOTAREV, V.N.; ZOLOTAREV, I.S.; IL'INA, M.I.; KOLYSHKINA, N.S.; KUDASOV, L.P.; MAKHIN, V.N.; MEDVEDEV, G.S.; NEKHAYEV, I.S.; OLEYNIKOV, M.S.; PARKHOMENKO, P.N.; TOMASHEVSKIY, V.I.; FEDUNETS, I.Kh.; KHRAMTSOV, V.K.; ZOLOTAREV, N.V., red.; SEVRYUKOV, P.A., tekhn.red.

[Planning on collective farms; manual] Planirovaniye v kolkhozakh; spravochnik. Kursk, Kurskoe knizhnoe izd-vo, 1960. 437 p.  
(MIRA 14:2)

(Collective farms)

MEDVEDEV, G. S.

Cand Biol Sci - (diss) "Types of ecologo-morphological adaptations of the darkling beetles (Coleoptera Tenebrionidae) of Turkmenia." Leningrad, 1961. 15 pp; (Academy of Sciences USSR, Inst of Animal Morphology imeni A. N. Severtsov); 250 copies; free; (KL, 5-61 sup, 184)

MEDVEDEV, G.S.

New species of the genus Sarathropus (Coleoptera, Tenebrionidae)  
from Central Asia. Ent. oboz. 40 no. 2:365-368 '61.  
(MIRA 14:6)

1. Zoologicheskiy institut AN SSSR, Leningrad.  
(Soviet Central Asia—Darkling beetles)

MEDVEDEV, G.S.

A new subfamily of darkling beetles (Coleoptera, Tenebrionidae)  
from Turkmenia. Zool.zhur. 41 no.8:1184-1189 Ag '62. (MIRA 15:9)

1. Zoological Institute, Academy of Sciences of the U.S.S.R.,  
Leningrad.

(Kugitang-Tau--Darkling beetles)

MELWDEY, G.S.

New forms of carmine beetles (Coleoptera, Tenebrionidae) from  
Kazakhstan. Trudy Zool. inst. 3(1994):63-104. (4 p., 28:2)

MEDVEDEV, G.S.

Zoogeographical characteristics of darkling beetles (coleoptera,  
Tenebrionidae) from Kugitang and a description of new forms.  
Zool. zhur. 43 no.1:54-64 '64

IRAl7x7)

1. Zoological Institute, Academy of Sciences of the U.S.S.R.,  
Leningrad.

MEDVEDEV, G.S.

New forms of darkling beetles (Coleoptera, Tenebrionidae) from Central  
Asia. Ent. oboz. 43 no. 3, 65-67. 1962. (MFA 17 10)

S. Zoologicheskiy Institut AN SSSR, Leningrad.

MEDVEDEV, G.S., kand. biol. nauk, red.; LUPTSOVA, A.N., kand.  
biol. nauk, red.; NASIBOVA, S.G., red.

[Insects of the lower Murgab Valley (southeastern Turkmenia);  
fauna, ecology, economic significance] Nasekovye nizovii  
Murgaba (IUGo-Vostochnaia Turkmenia); fauna, ekologija, kho-  
ziaistvennoe znachenie. Ashkhabad, Turkmenskoe izd-vo, 1965.  
145 p. (MIRA 18:6)

1. Akademija nauk Turkmenskoy SSR, Ashkhabad. Institut zoolo-  
gii i parazitologii. Sektor entomologii.

MEDVEDEV, G.S.

Types of adaptations of the leg structure in desert darkling beetles (Coleoptera, Tenebrionidae). Ent. oboz. 44 no. 4:  
803-826 '65 (MIRA 19:1)

1. Zoologicheskiy institut AN SSSR, Leningrad.

KARPUKHIN, V.D., dotsent, kand.tekhn.nauk; KOROTKOV, R.P.; MEDVEDEV, G.V.

Photoluminescent analysis of a study of the effectiveness of  
preliminary wetting of a coal massif. Bor'ba s sil. 5:72-78 '62.  
(MIRA 16:5)

1. Khar'kovskiy gornyy institut.  
(Mine dusts—Prevention)

KARPUKHIN, V.D.; KOROTKOV, R.P.; MEDVEDEV, G.V.

Using photoluminescence analysis to study the distribution  
of water in a coal massif on injecting it into the seam.  
Nauch. trudy KHGI 11:37-44 '62. (MIRA 16:11)

MEDVEDEV, G.V.; SVADKOVSKAYA, Ye.F.

Preparation of the AMS alloy [aluminum-manganese-silicon]  
from Dzhezdy manganese ores with use of Ekibastuz coal. Stal'  
22 no.2:139 F '62. (MIRA 15:2)  
(Aluminum-manganese-silicon alloys--Metallurgy)

L 16791-66

ACC NR: AP6002601

(A)

SOURCE CODE: UR/0286/65/000/023/0096/0096

AUTHOR: Medvedev, G. V.

ORG: none

TITLE: Self-unloading bucket. Class 81, No. 176827

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 96

TOPIC TAGS: conveying equipment, transportation equipment

ABSTRACT: This Author Certificate presents a self-unloading bucket, primarily for granular materials. The bucket includes a frame and a traverse with a ring which can be connected to a hoisting hook. To improve the productivity of this device, two split buckets are hinged to the vertical supports of a horizontal frame so as to leave a space between the buckets and the frame (see Fig. 1). The open portions of the buckets face one another, while chains attached to the upper parts of the buckets are connected to the horizontal traverse. The latter may be connected or disconnected by links with hooks placed on the tips of the vertical supports of the frame.

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UDC: 621.869.88

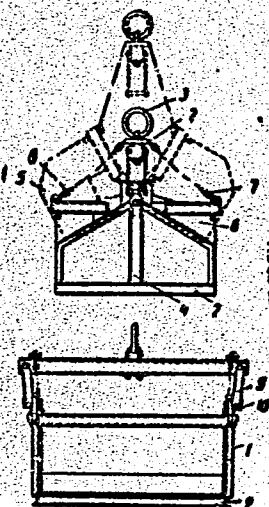
10  
B

Z

L 16791-66

ACC NR: AP6002601

Fig. 1. 1 - Frame; 2 - traverse;  
3 - ring; 4 - vertical supports;  
5 and 6 - split buckets;  
7 and 8 - chains; 9 - links;  
10 - hooks.



Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 27May64

Card 2/2 J.M.

ACC NR: AP6017953 (A) SOURCE CODE: UR/0413/66/000/010/0016/0016

AUTHOR: Buzikov, Yu. M.; Medvedev, G. V.

ORG: None

TITLE: A device for transverse ball rolling of thin-walled pipes. Class 7, No. 181595

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 16

TOPIC TAGS: pipe, metal rolling, rolling mill

ABSTRACT: This Author's Certificate introduces a device for transverse ball rolling of thin-walled pipes. The unit contains a ball race with adjustment mechanism. Pipes with rigid tolerances in geometric dimensions are produced by using a ball race which has a floating suspension in the transverse direction to the axis of the pipe in ball guides. In addition, the unit has a mechanism for automatically opening the race at the end of the rolling process and setting it to the previous pipe size before rolling.

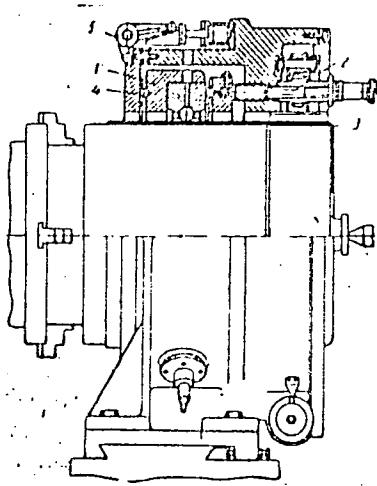
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UDC: 621.774.77.002.5<sup>4</sup>

"APPROVED FOR RELEASE: 07/12/2001

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CCW/TM032V



1--ball race; 2--race adjustment mechanism; 3--pipe;  
4--ball guides; 5--mechanism for opening the race

SUB CODE: 13/ SUBM DATE: 07Dec63

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CIA-RDP86-00513R001033220016-3"

MEDVEDEV, I. A.

**Surgery**

Dissertation: "Replacement of the Thoracic Aorta With a Transplanted Preserved Aorta (Experimental Investigation)." C<sup>nd</sup> Med Sci, Second Moscow Medical Inst imeni I. V. Stalin, 29 Mar 54. (Meditinskij Rabotnik, Moscow, 14 Mar 54).

SO: SUM 213, 20 Sep 1954

MEDVEDEV, I.A.

Replacement of damaged thoracic aorta by a preserved homogenous aortic graft under experimental conditions. Khirurgiia no.1:86-91 Ja '54.  
(MLRA 7:5)

1. Iz fakul'tetskoy khirurgicheskoy kliniki im. S.I.Spasokukotskogo  
(zaveduyushchiy - professor A.N.Bakulev) II Moskovskogo meditsinskogo  
instituta im. I.V.Stalina. (Aorta--Transplantation)

MEDVYDEV, I.A.; PISKUNOV, M.I.

Dynamics of bacterial infection of the air in the operating room.  
Sov.med. 18 no.6:9-11 Je '54. (MLRA 7:6)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (dir.-deystvitel'-nyi chlen Akademii meditsinskikh nauk SSSR prof. A.N.Bakulev) Lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni I.V.Stalina.

(OPERATING ROOMS,  
\*bact. pollution of air)  
(AIR POLLUTION,  
\*bact., in operating rooms)

MEDVEDEV, I.A., kand. med. nauk.

Surgery in tetralogy of Fallot complicated by chylothorax.  
(MIRA 9:2)  
Khirurgiia, no.9:60-61 S '55.

1. Iz fakul'tetskoy khirurgicheskoy kliniki (dir. deystvitel'nyy  
chlen AMN SSSR prof. A.N. Bukulev) II Moskovskogo meditsinskogo instituta  
imeni I.V. Stalina.

(TETRALOGY OF FALLOT, compl.

chylothorax, surg.)

(CHYLOTHORAX, etiol. and pathogen.

tetralogy of Fallot, surg.)

MEDV рЕДев, Igor' Andreyevich

[Homoplasty of the thoracic aorta; an experimental study] Gomoplastika  
grudnoi aorty; eksperimental'noe issledovanie. Moskva, Medgiz, 1956.  
138 p. (MIRA 10:1)

(AORTA--SURGERY)

MARINA, O.I.; MEDVEDEV, I.A.

Cardioangiography and aortography in diagnosis of coarctation of the aorta. Med. int., Bucur. 9 no.7:1101-1109 July 57.

1. Lucrare efectuata in clinica S. I. Spasokukotki a Institutului de medicina nr. din Moscova - Director acad. A. N. Bakulev.

(COARCTATION OF AORTA, diagnosis

aortography & cardioangiography, indic. & value)

(ANGIOGRAPHY

aortography & cardioangiography in coarctation of aorta,  
indic. & value)

Meshalkin, E. N., Medvedev, I. A., and Fufin, V. I.

"A new method for the closure of a patent ductus arteriosus with a mechanical clip suture." Novye khirurgicheskie apparaty i instrumenty i optyt ikh primeneniya, No. 2, 1958, p. 13

Cent. Inst. Advanced Training of Physicians

MEDVIEV, I.A.; FRANTSIV, V.I.

Use of plastic prostheses in inoperable cancer of the esophagus. Eksp.  
khir. 3 no.6:12-16 N-D '58. (MIRA 12:1)

1. Iz kafedry grudnoy khirurgii i anesteziology (zav. - prof. Ye. N.  
Meshalkin) Tsentral'nogo instituta usovremenistyvovaniya vrachey (dir. -  
V. P. Lebedeva).

(ESOPHAGUS, neoplasms  
recanalization using plastmass prosth. in inoperable cases  
(Rus))

MEDVEDEV, I.A.

MESHALKIN, Ye.N.; MEDVEDEV, I.A.

Result of surgical treatment of coarctation of the aorta [with  
summary in English]. Eksper.khir. 4 no.1:19-29 Ja-Y '59.  
(MIRA 12:2)

1. Iz kafedry torakal'noy khirurgii i anesteziologii (zav. - prof.  
Ye.N. Meshalkin) TSentral'nogo instituta usovershenstvovaniya  
vrachey (dir. V.P. Lebedeva).  
(COARCTATION OF AORTA, surg.  
results (Rus))

MEDVEDEV, I.A.; MISTAKOPULO, N.F.

Results of the local use of antibiotics in operations on the heart  
and large vessels. Eksper. khir. 5 no. 5:24-26 '60. (MIRA 14:1)  
(CARDIOVASCULAR SYSTEM—SURGERY)  
(ANTIBIOTICS)

BAKULEV, A.N., akad.; BLOKHIN, N.N.; BOGUSH, L.K.; VELIKORETSKIY, A.N., prof.; VOZNESENSKIY, V.P., prof., zasl. deyatel' nauki [deceased]; GULYAYEV, A.V., prof.; DANILOV, I.V., prof.; DUBOV, M.D., doktor med. nauk; KAZANSKIY, V.I., prof.; LIMBERG, A.A.; LINBERG, B.E., zasl. deyatel' nauki, prof.; MEDVEDEV, I.A., dots.; MESHALKIN, Ye.N., prof.; MIRONOVICH, N.I., doktor med. nauk; NIKOLAYEV, O.V., prof.; NIFONTOV, B.V., doktor med. nauk; PETROVSKIY, B.V.; PRIOROV, N.N. [deceased]; RIKHTER, G.A., prof.; ROVNOV, A.S., prof.; RUFANOV, I.G.; STRUCHKOV, V.I.; SHRAYBER, M.I., doktor med. nauk; GORELIK, S.L., dots., red.; YELANSKIY, N.N., red.; SALISHCHEV, V.E., zasl. deyatel' nauki, prof. [deceased]; RYBUSHKIN, I.N., red.; BUL'DYAYEV, N.A., tekhn. red.

[Surgeon's reference book in two volumes] Spravochnik khirurga v dvukh tomakh. Pod obshchey red. A.N. Velikoretskogo i dr. Moskva, Medgiz. (MIRA 14:12)  
Vol. 1. 1961. 564 p.

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Blokhin, Petrovskiy, Priorov, Rufanov, Limberg). 2. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Bogush, Struchkov, Yelanskiy).  
(SURGERY)

KUCHINSKIY, G.A. (Moskva, Lobkovskiy per., d.2/21, kv.45); MEDVEDEV, I.A.; PIPKO, A.S.

Contrast examination of the left heart by a direct puncture method.  
Vest.rent.i rad. 36 no.3:14-18 My-Je '61. (MIRA 14:7)

1. Iz rentgenovskogo otdeleniya (zav. - doktor meditsinskikh nauk  
A.S.Pipko) Instituta eksperimental'noy biologii i meditsiny Sibirskogo  
otdeleniya AN SSSR (dir. - prof, Ye.N.Meshalkin).  
(HEART—RADIOGRAPHY)

PIPKO, A.S., doktro med.nauk; MEDVEDEV, I.A., dotsent; MELEKHOV, V.V.  
(Novosibirsk)

Clinical and roentgenological diagnosis of aortic coarctation.  
Klin.med. 39 no.1:39-49 Ja '61. (MIRA 14:1)

1. Iz Instituta eksperimental'noy biologii i meditsiny Sibirsко-  
go otdeleniya AN SSSR (dir. - prof. Ye.N. Meshalkin).  
(AORTA—ABNORMALITIES AND DEFORMITIES)

MEDVEDEV, I.A., dotsent

Probe enters the heart. Nauka i zhizn' 29 no.1:42-43 Ja '62.  
(MIRA 15:3)

1. Institut eksperimental'noy biologii i meditsiny.  
(HEART--SURGERY)

MESHALKIN, Ye.N.; FUKS, B.B.; STEFANOVICH, L.Ye.; SERGIYEVSKIY, V.S.;  
KONSTANTINOVA, I.V.; DEVOYNO, L.V.; MEDVEDEV, I.A.

Using proteirase-treated collagenous and elastic "carcasses"  
from heterologous material for vascular grafts. Izv. Sib. otd.  
AN SSSR no.5:129-132 '62. (MIRA 18:2)

1. Institut eksperimental'noy biologii i meditsiny Sibirskogo  
otdeleniya AN SSSR, Novosibirsk.

MIDVEDEV, I.A., dotsent (Irkutsk, 72, Akademicheskij, 10-a, kv. 24);  
ROVINA, A.K.; OSTAFENKO, G.I.

Anesthesia in operations for aortic coarctation. V-st. saino.  
(MIRA. 1981)  
92 no. 4:101-106 Ap '64

i. Iz knirurgicheskogo otseleniya (zav. - dotsent I.A. Midveev)  
Instituta eksperimental'noy biologii i meditsiny ( direktor -  
prof. Ye.N. Meshalkin) Sibirs'koye otseleniya AN SSSR.

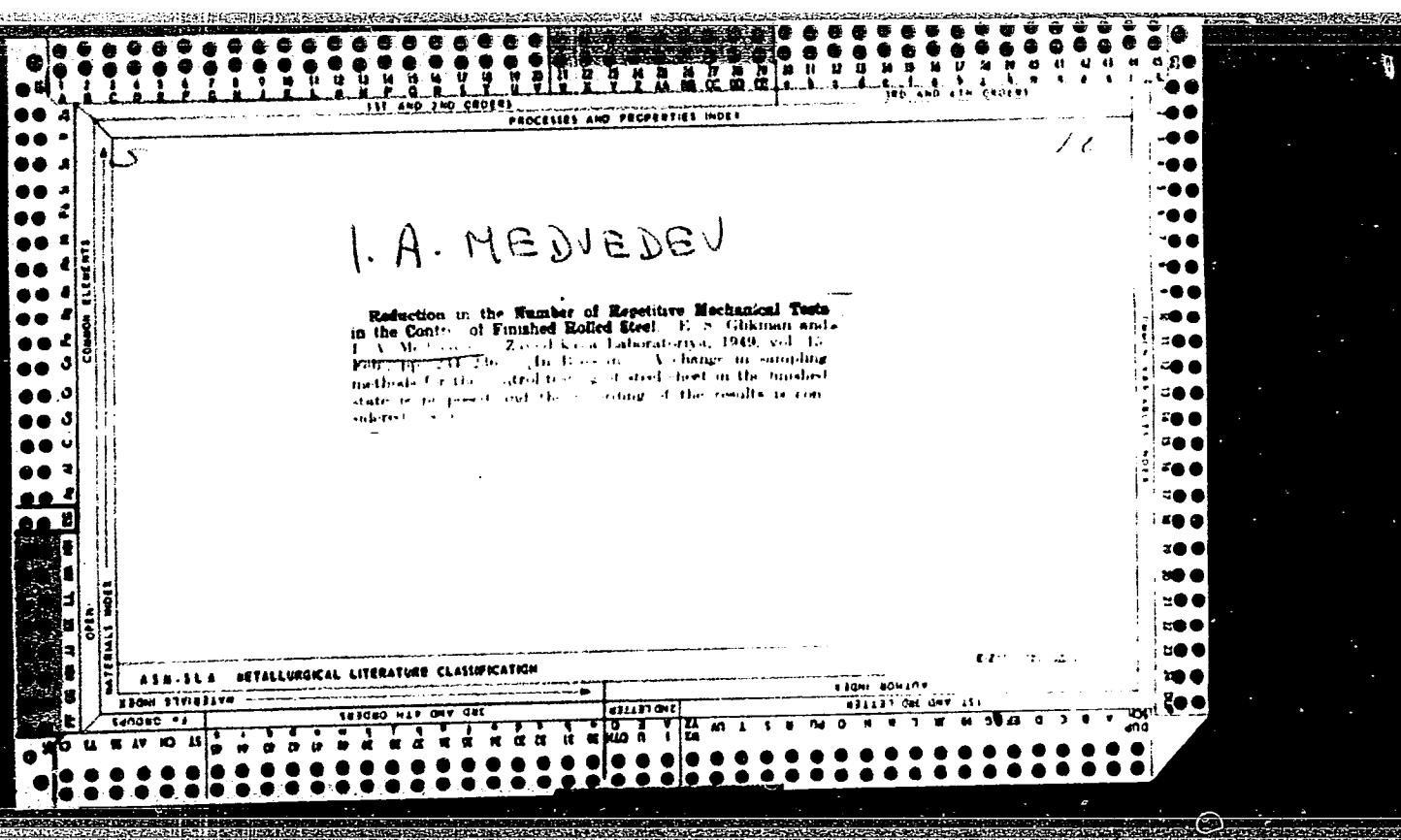
MEDVEDEV, I.A., dotsent

Surgical treatment of diseases of the thoracic aorta. Vop. pat. i  
reg. org. krov. i dykh. no.1:207-211 '61. (MIRA 18:7)

KREMLIN, L.A.; VENGEV, L.A., retired; WEFINA, N.I.

Labor following execution of the order for rear anti-aircraft regiment by General Zhukov. At the time of the raid (18:10) 105.

1. Initial information about the raid on Berlin is as follows: "traveling from Moscow to Berlin via rail" - Lt. Col. T. G. Moshalikov, Captain S. A. Kuznetsov and Lieutenant - I. G. ...  
Berdskiy, I. Kuznetsov. All three believe our source to be reliable.  
(Having much P.R. material, I think it's better to leave it alone,  
Never mind.)



~~MEDVEDEV, Ivan Alekseyevich; SHCHUKIN, Pavel Mikhaylovich; VALOV, N.A.,~~  
~~redaktor; ISLAM-TYVA, P.G., tekhnicheskiy redaktor~~

[Work planning in pipe shops] Operativnoe planirovaniye v trubnykh  
tsekhakh. Moskva, Gos.sauchno-tekhn.izd-vo lit-ry po chernoi i  
tsvetnoi metallurgii, 1957. 205 p.  
(Pipe) (Rolling mills)

(MLRA 10:10)

MEDVEDEV, I.; DUBININA, Yu.

Evaluation of steel workers' production and wages. Sots.trud. 4  
no.6:117-119 Je '59. (MIEA 12:8)

1. Zaveduyushchiy kafedroy organizatsii i planirovaniya proizvodstva. Dnepropetrovskogo metallurgicheskogo instituta (for Medvedev).
2. Sekretar' partorganizatsii martenovskogo tsekha zavoda im. Dzerzhinskogo (for Dubina).  
(Dneprodzerzhinsk--Productivity accounting)

DUBINA, Yu.; MEDVEDEV, I.; TAREYKO, N.

New accounting and wage system for smelters. Biul.nauch.  
inform: trud i zar.plata 3 no.2:31-33 '60.  
(MIRA 13:6)  
(Dnepropetrovsk--Smelting) (Wages)

MEDVEDEV, I.; MOSKHEVICH, I.; ZAYTSEV, Kh.

Improve the establishment of work norms in maintenance shops of  
metallurgical plants. Sots.trud 4 no.7:82-96 J1 '60.  
(MIRA 13:8)

(Machine-shop practice-Production standards)